NEWCASTLE-u-L

Borough of Newcastle-under-Lyme.

Annual Report

TO THE

Education Authority

ON THE

Medical Inspection of School Children,

For the Year 1913,

— BY —

JOHN FORTUNE, M.D., D.P.H.,

SCHOOL MEDICAL OFFICER.

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March, 1914.

Gentlemen,

I have the honour to present to you the Annual Report on the Medical Inspection of School Children during the year 1913.

I desire to express my thanks to the members of the Education Committee for the support they have accorded me.

I wish also to record my appreciation of the cordial co-operation of the various members of the Staff of the Education Authority.

I am, Gentlemen,

Your obedient servant,

JOHN FORTUNE.

REPORT.

SCHEME OF MEDICAL INSPECTION.

During 1913 the work of medical inspection has been conducted on similar lines to the scheme developed in 1912, and there seems little reason to doubt the efficiency of the supervision of the school children which is thus obtained.

The scheme includes :—

I. Routine Examination at fixed age-periods.

II. Special and Supplementary Examinations at School.

III. The Inspection Clinic.

IV. The following-up of all children found defective or in ill-health.

I.—Routine Examination.

Medical Inspection of all entrants and leavers is ensured by having lists sent in advance to the Medical Officer by the head teachers. These lists contain the names of all new admissions as well as those children completing their 5th, 9th and 13th years. The majority of the children leave school after completing their 13 years of age, so that they are examined when about 12 years and 6 months. This allows of the re-examination of those found defective before they can leave school.

Children under 5 years of age undergo a cursory examination, and later the routine inspection when they reach 5 years. Children admitted at other ages also undergo routine examination on admission.

In addition the routine inspection of all children in their 9th year has been conducted. This is of decided advantage in ensuring the examination of all children, three times during their school life. This age period has been chosen by the Board of Education as an additional age for routine examination, and this

is to be made compulsory next year. This will entail no disorganisation of our present work, as this inspection has been in force in the borough during the past two years.

There are five schools in the borough, and, with the exception of St. Giles and St. George's, where the examination is conducted at Hassall Street school, all the schools provide adequate accommodation for the medical inspection on their own premises. The rooms are excellent for the purpose, and allow the examination with the requisite amount of privacy.

Each school, as far as possible, is visited every three weeks for the purpose of routine medical examination, and this allows also of defective children being re-examined, or brought frequently forward for inspection. The preliminary notice and intimation to the parent or guardian, is sent by the Education Secretary.

On the date of examination the school nurse assists or completes the preliminary part of the examination, such as recording the heights and weights of the children. In some instances this is done by the teachers and is of great assistance in the matter of time-saving. I must acknowledge the ready help and co-operation of the school teachers in the carrying out of the scheme, and in respect of the cleanliness and the early detection of skin and other infections, their collaboration has been of the greatest value.

After the examination has been conducted, the schedules are taken to the office and the results recorded, the schedules being returned to the school and filed there. The names of the children with their various defects are entered in the office registers, and these children are subsequently re-examined or followed up at home.

II.—Special and Supplementary Examinations.

These are necessary in the case of the children found suffering from various defects at the time of routine inspection. Thus those examined at $12\frac{1}{2}$ years can be re-examined before leaving, whilst in addition, visits are made to the schools for the purpose of conducting special investigations. By this means the prevalence of pediculosis is ascertained for example, whilst all "contacts" of tuberculous cases are kept under observation. It must be borne in mind, that, as the parents receive ample intimation of the ordinary routine examinations, the usual condition of the child as to clothing and cleanliness is often not ascertained, as the children are not infrequently made more presentable for the inspection.

When the parent is not present at the examination a notice of the defective condition found in the child is sent by the Medical Officer, with a request to have the condition remedied. This is done on each re-examination as well so that a large amount of clerical work is involved. In conditions of uncleanliness or pediculosis, printed instructions are enclosed in the notice. In this latter class of case frequent inspections are also made by the school nurse, who in addition visits the homes of the children and explains the necessity for treatment. The system of supplementary examinations avoids any overlooking of any child at school.

III.—The Inspection Clinic.

Each morning the clinic is held at the office of the Medical Officer, where children are examined and the condition detailed so that parents may have the matter attended to by their own medical man.

These cases include any sent from school suspected to be suffering from any form of illness, others brought by parents, or sent by the Attendance Officer, as probably medically unfit, and also those children already excluded from school by the Medical Officer.

Each child excluded is given a certificate which is brought at each subsequent attendance, until replaced by a certificate of fitness to attend. This Exclusion Card is taken to the child's home in the first instance by the Attendance Officer, and the latter subsequently visits the home again, when the child is certified as fit to attend school, and thus prevents absenteeism. By this scheme every child who is suffering from illness is provided with a certificate, and no cases need be absent without the knowledge of the Medical Officer. Such children are under the supervision of the Medical Officer, and the reason for absence is known to the Attendance Officer. Except when children are confined to bed or within doors, there is now no excuse for their being absent without a medical certificate. Cases of infectious disease notified by the teachers are visited by the Medical Officer, or School Nurse, and the facts ascertained as to the nature of illness, and the attendance of a Doctor.

Here again there is a large amount of clerical work, as the name, address, and condition of the child has to be recorded in the register and the certificates have to be entered, as well as frequently a notice sent to the parent. Where children are brought by the teacher, the notice to the parent is usually taken by the school nurse and the condition and necessity for treatment is explained.

IV.—The Following-up of Unfit Cases.

Many children in addition to those unfit to attend school, require treatment for other conditions, such as defective vision, adenoids, &c., and these cases frequently have to be re-examined and the parents informed of the necessity for treatment. Apart from the repeated examination of defective children, visits to the home are often necessary, and this is done by the school nurse. There is thus maintained a constant supervision of the health of the school children, both at school and when unfit to attend. The aim in every case is to have the defective conditions found, attended to, and as there is no compulsion, it is only by repeatedly drawing attention to the condition that amelioration is to be hoped for. When children have been granted certificates of exclusion, they are obliged to attend on the dates given on the certificate, so that it may be ascertained if treatment has been obtained, as well as having the condition inspected. When no improvement is apparent, the nurse visits the home and urges the necessity of medical advice, where this has been disregarded.

OFFICE WORK.

With the exception of intimating to the teacher and parents the time and date of the Routine Inspections at school, which notices are sent by the Secretary, the remainder of the clerical work of School Medical Inspection is done through the office of the Medical Officer. The Exclusion Register, Defect Books, Certificates, &c., are kept at the office, and large sheets for recording the results of medical inspection after each visit to the schools. These are necessary for statistical purposes.

After visiting the school, the schedules are brought to the Office, and the results copied on the sheets, there being one sheet for each sex and age-period for each school. The schedules are returned to the school on the occasion of the next visit, and are filed by the head teachers.

The names, age, and class of each child found defective is entered in the defect register, and a notice of the nature of the defect discovered is given to the child to take home, when the parent has been absent at the time of examination. As the defects are remedied, the names are taken out of the book, so that the number of children requiring attention is constantly on record. Needless to say, it entails a large amount of clerical work. By this system the work is kept up to date, and the numbers examined, and dates of visits are always at hand. So far the system has worked well, and there seems no reason to doubt its success.

Visits to School for Medical Inspection.

During 1913, 89 visits were paid to the different schools as follows :

	For Routine Examinations.	Special Examinations.	Total
Friarswood	11	5	16
Hassell Street	17	7	24
Rye Croft	15	7	22
St. Giles' and St. George's ...	9	3	12
St. Patrick's	8	7	15
Total	60	29	89

NUMBER OF CHILDREN INSPECTED.

In Table I. is shown the numbers of children medically inspected during the year. There is an excess in the group of entrants over that of leavers, but this is due to the fact that all admissions from other areas have been inspected. The leavers were examined between 12 and 13, and those found defective were re-examined.

Table I.

A.—CODE GROUPS.

Age.	Entrants. 5 years.	Other ages.		Leavers. 12 years.	Grand Total.
Boys ...	191	139	330	195	525
Girls ...	137	118	255	216	471
Total ...	328	257	585	411	996

B.—GROUPS OTHER THAN CODE.

Age.	Intermediate.	Special cases.*	Re-examined. ‡
Boys ...	211	220	187
Girls ...	243	344	214
Total ...	454	564	401

*Actually excluded. ‡ At school (not including Pediculosis).

All children found defective are as far as possible re-examined especially at the higher ages. This re-examination is made naturally with special reference to the condition requiring attention. In addition to the special cases seen at school, and to the number re-examined there, a large number are examined at the Inspection clinic. Those excluded are re-examined on the dates of their

subsequent attendances. Thus during 1913, it was found necessary to exclude 564 children from school, but the total number of attendances at the clinic amounted to 2,840.

The existence of the clinic has naturally reduced the number of defective conditions found at the ordinary routine examinations, and the system of following-up has considerably affected the proportion of unsatisfactory conditions such as skin diseases and pediculosis. Many such cases have been examined and referred for treatment from the inspection clinic before they have reached the age-period for routine inspection. Thus the number of children actually excluded at the time of inspection was very small—these numbering 12 at routine inspection and 13 at special examination. The remaining 539 exclusions were first seen at the clinic. The numbers given in the table of children re-examined, refer to children re-examined at school and do not include the supplementary examinations of the heads for pediculosis.

CHILDREN WITH DEFECTS REQUIRING ATTENTION OR TREATMENT.

The following Table shows the result of routine medical inspection at the different age periods.

Age	5—6		Entrants at Other Ages.		9 Years.		13 Years.		Total.	
	Number	Per cent.	Number	Per cent.	Number	Per cent.	Number	Per cent.	Number	Per cent.
Boys ...	74	38	82	58	151	71	93	47	400	54
Girls ...	46	35	71	60	170	70	82	37	369	51
Total ...	120	36	153	59	321	70	175	42	769	63

Thus 53 per cent. of all the children examined showed defects requiring attention. In 1912 the percentage was 60, so that there is a slight improvement to record. It need hardly be pointed out that in the large majority of cases the defects are not of a serious nature, decayed teeth being responsible for a great number. On the other hand several children showed more than one condition requiring attention.

It is noticeable that the age-period of 9 years shows the largest percentage of defective children. This may be accounted for to some extent by the fact that it is about this time that the temporary teeth are being replaced by the permanent, and that decayed teeth are common. Only when more than two teeth are decayed is the child marked as defective in the accompanying Table.

It must however be noted that parental responsibility may have something to do with the greater deficiency of the children at this age-period. The child of this age is now less under the close parental care and association than at the earlier ages, but is not yet old enough to take care of itself. For this reason the need for medical inspection at this age is urgent.

There is a noticeable difference between the boys and girls at the age group 12—13 years, the boys showing more defective conditions than the girls,

THE PHYSICAL CONDITION OF THE CHILDREN INSPECTED.

In the following returns, which are made in a new form by request of the Board of Education, some incompleteness of detail is unavoidable, by reason of the different classification hitherto employed. In future the method of making the return has now been determined by the Board's Medical Department. Table II., showing the physical condition of the children, has been cut up for convenience into various parts.

Clothing and Cleanliness.

The observations made at routine examinations are hardly to be depended on, as children often come specially clean and clothed for the occasion, and the average condition cannot be obtained. Still badly soiled or tattered clothing, or the existence of a dirty personal condition points to parental indifference, as even utter poverty need not excuse torn garments or filthy skin. These conditions are more often found on the occasions of special visits to school, and children whose persons are unclean are sent to the inspection clinic. Visits are paid to the home and representations made to the parent. Some difficulty in the case of the worst offenders has occurred from the absence of a cleansing station. Fortunately this is in course of being provided, and it will be possible then to enforce the provisions of the Children's Act.

Up to this year the state of the clothing and footgear has been classified as good, fair, and bad. During the year 171 boys and 114 girls showed a fair condition of those, and, thus a total of over 20 per cent. could not be classified as well clad. The following Table shows that with regard to cleanliness the figures are satisfactory, No child was found in a verminous condition at routine inspection, and only 1 boy was found with nits in the hair. The percentage of girls with nits in the hair is only 25, compared with 50 in 1912. This improvement is largely due to the method of supplementing ordinary inspection by special visits to school, and repeated re-examination of the heads of those infected.

TABLE II (a).—CONDITION OF CHILDREN INSPECTED.

		Entrants.				Leavers.				Intermediate.				Total.				Special Cases		
		Boys	Girls	Total	per cent.	Boys	Girls	Total	per cent.	Boys	Girls	Total	per cent.	Boys	Girls	Total	per cent.	Boys	Girls	Total
Total Inspected	...	330	255	585		195	216	411		211	243	454		736	714	1450		220	344	564
Clothing — Satisfactory	...	322	251	573	98	192	208	400	98	205	230	435	96	719	689	1408	97			
Clothing — Unsatisfactory	...	8	4	12	2	3	8	11	2	6	13	19	4	17	25	42	3			
Footgear — Satisfactory	...	322	251	573	98	192	208	400	98	205	230	435	96	719	689	1408	97			
Footgear — Unsatisfactory	...	8	4	12	2	3	8	11	2	6	13	19	4	17	25	42	3			
Cleanliness Head — Clean	...	329	190	519	88	195	162	357	87	211	180	391	86	735	532	1267	88			
Cleanliness Head — Nits	...	1	65	66	11	...	54	54	13	...	63	63	13	1	182	183	12			
Cleanliness Head — Pediculi	...	...	...	...		...	...	...		...	...	...		...	...	...				
Cleanliness Body — Clean	...	320	253	573	98	194	214	408	99	207	241	448	98	721	708	1429	98·5			
Cleanliness Body — Nits	...	10	2	12	2	1	2	3		4	2	6		15	6	21	1·5			
Cleanliness Body — Pediculi	...	...	...	...		...	...	...		...	...	...		...	...	...				
Nutrition — Good	...	298	227	525	89	149	182	331	80	172	199	371	81	619	608	1227	84			
Nutrition — Below Normal	...	31	27	58	10	46	30	76	18	39	43	82	18	116	100	216	15			
Nutrition — Bad	...	1	1	2		...	4	4	1		1	1		1	6	7				

Height, Weight and Nutrition.

The heights and weights of the children have been recorded on the system mentioned in my last report to you, the height and weight of each child being recorded by means of a dot on specially ruled sheets. By this method each dot represents an individual child and one is able to visualise the particulars of all children of the same age-period and sex—on a single sheet, each representing a half-inch vertically and a pound horizontally. This avoids the collection of a series of heights and a series of weights which are of no value except to find the average of each.

As the numbers at each age and sex in Newcastle are relatively small, the dot system is being used to add to the numbers obtained last year, and it will soon be possible to have enough recorded to find the true mean measurements of the school children.

In the examination of school children, one has to deal with defective as well as healthy children. This accounts, for instance, for the low average of the measurements. At certain ages—for example—13 years,—girls have the appearance of being better nourished than boys, and this is almost entirely due to the circumstances of their earlier development, into which the question of weight also enters.

As I pointed out before, a child who is of the average height and average weight does not show a good standard of nutrition—that is, does not appear to be well nourished. For instance, at 12 to 13 years the average height of the boys is $54\frac{1}{2}$ inches and the the weight 71 lbs., and a boy exhibiting those measurements is not what one would call well nourished. Nutrition in its classification is largely influenced by the personal factor, but few observers would disagree about a state of bad nutrition.

This subject of nutrition is of great importance in the examination of school children, as there are often found associated factors more or less responsible, many of which are remediable. A faulty state of nutrition as a rule points to some inability to assimilate the food supplied, and less often to an actual deficiency in the food. The food itself may be deficient in those qualities which are essential for physique building, but this is largely a matter of parental ignorance or indifference. That some of the defective conditions found in children are due to indifference, is suggested by the fact that fewest defects are found in the group of entrants—that is the youngest children. There is, however, little doubt that the correction of such defects as decayed teeth, and adenoid enlargements, assists the assimilation of the food supplied and consequently improves the child's nutrition.

With regard to the use of a "Nutrition Index" as a check on the judgment of nutrition, this has been done by dividing the average height by the average weight, and gives the following results :—

Age.		Boys.	Girls.
12—13 years average	...	54·4 inches.	54·6 inches.
	...	71·3 lbs.	71·7 lbs.
Nutrition Index	...	·76.	·76.
Children with lower index		35 per cent.	41 per cent.
8—9 years average	...	48 inches.	47·5 inches.
	...	53·3 lbs.	50·2 lbs.
Nutrition Index	...	·9.	·94.
Children with lower index		38 per cent.	43 per cent.

These figures are of value as they are obtained from the record sheets, and they show that 35 per cent. of the boys and 40 per cent. of the girls, do not show a relation of weight to height equal to the average obtained from all the children examined at the same age. This relation of the weight to the height is not by itself a standard of the nourishment, but is at least an accurate means of comparison.

A reference to Table II. shows that over 15 per cent. of the children examined exhibited faulty nutrition, and that this is least evident among the entrants. Much of the importance of observing the state of nutrition lies in the fact that it is a guide to the child's condition, and a badly nourished child requires more careful examination on that account.

Ear, Nose and Throat.

Only 4 cases of Otorrhœa were found at medical inspection, 2 boys and 2 girls. In connection with this and other conditions, it must be remembered that most cases are naturally seen at the inspection clinic and attended to before return to school. For example, 9 cases were excluded for this condition during the year.

It is convenient here to consider also the presence of enlarged tonsils, adenoid overgrowth and glandular enlargement, as they consist of lymphatic tissue, and are in all likehood the result of attempt of nature to resist infection, though the resulting hyperplasia is in itself a danger to the health of the child. Experience proves that children with tonsillar enlargement or adenoids suffer

more severely when attacked by scarlet fever, and in the case of diphtheria they are much more likely to remain infectious for a long period. They are also more prone to catarrh and attacks of "colds," and deafness, defective chest expansion and diminished oxidation of the blood leads to the child being backward at school.

Operative interference in these conditions is of the greatest value, and it is satisfactory to note that this advice is usually followed. Analysis of the figures show that glandular enlargement in the neck is more frequently associated with the presence of adenoids or tonsillar hypetrophy than with the presence of decayed teeth. The figures found correspond closely with those of 1912 as the following Table shows.

1912—Number Examined. 1,234.

	Tonsils		Adenoids	Glands	
	Slight.	Marked.		Cervical.	Submax.
Boys ...	58	23	14	181	181
Girls ...	75	21	11	160	93
Total ...	133	51	25	341	274
Per cent. ...	10	4·1	2	27	22

1913—Number Examined, 1,450.

Boys ...	74	32	15	219	127
Girls ...	85	32	12	195	77
Total ...	159	64	27	414	204
Per cent ...	11	4·4	1·8	28	14

The condition of glandular enlargement noted above is exclusive of tubercular glands and is not of serious import. The figures in detail as regards the tonsillar enlargement and presence of adenoids are given in the continuation of Table II.

Condition of the Teeth.

Decay of the teeth is the commonest defect in school children, and is especially prevelant at the intermediate age-period 8—9 years, as the temporary teeth are being gradually replaced by the permanent. There seems to be little doubt that the nature of the food supplied has much to do with dental decay, but the temperature of the food and drink may have some effect. Sweet or starchy food is readily fermentable, and acids are formed in the process of

decomposition, which attack the enamel of the tooth. The desire for sweetstuffs is natural to a growing child, as sugar is the food of the muscles, and the best means of prevention of decay is the use of the toothbrush to remove particles of food which would otherwise decompose. Civilization has tended to make cooking a means of providing our food in a soft condition, requiring little mastication, and the fluid portion of a meal is usually of a high temperature. This means that ready swallowing of food is the result, and the least possible demand is made on the muscles of mastication or the teeth as grinders.

In the accompanying Table the teeth are classified as perfect where at the age 12—13 years there are 28 sound teeth with no gaps, and at 8—9 years when there are 24 without any decayed teeth or gaps :—

		Number Examined.	Perfect. No.	Perfect. Per cent.	0—2 decayed. No.	0—2 decayed. Per cent.	2—4 decayed. No.	2—4 decayed. Per cent.	Over 4 decayed. No.	Over 4 decayed. Per cent.
12—13 years.	Boys ...	195	4	2	122	62	49	25	20	10
	Girls ...	216	7	3	134	62	42	19	33	15
	Total ...	411	11	2·7	256	62	91	22	53	13
9—9 years.	Boys ...	211	1	...	101	48	58	27	51	24
	Girls ...	243	1	...	113	46	82	34	47	19
	Total ...	454	2	...	214	47	140	31	98	21

External Eye Diseases.

The external diseases of the eye, such as ulcers, inflammation, etc., call for special attention as apart from being intensely inconvenient to the sufferer, they are evident at once to the onlooker, so that there is little excuse for their being unattended except carelessness on the part of the parent. Apart from this, if treatment is neglected, they may have considerable effect in diminishing the wage-earning capacity of the boy when grown to manhood, and in the case of a girl, the unsightly blemishes may have effects just as prejudicial. One can have little respect for the parent who ignores the existence of inflamed eyelids (blepharitis), inflamed eyes (conjunctivitis), and diseases of the cornea (clear part of the eye), in that they are so evident, and it is unlikely that the present generation of school children will think kindly of parents

who neglect to remedy such serious defects. This indeed seems to be the most salutory method of warning an unwilling parent—to point out that the children will blame them when they grow up.

The following Table shows the condition of the eyes with respect to external diseases.

	Lids.	Conjunctivitis.	Cornea.	Total.	Per cent.
Boys	4	2	7	13	1·8
Girls	5	...	5	10	1·4
Total ...	9	2	12	23	1·6

These are practically the same as 1912 when the percentages were 1·9 for boys, 1·6 for girls, and 1·7 for the total.

Heart and Circulation.

Definite valvular disease of the heart was found in 8 cases, 4 boys and 4 girls.

In addition functional disturbance was noted in 16 cases, 6 boys and 10 girls. This was usually a systolic murmur not conducted, and heard over the apex or pulmonary region. In addition 4 cases of tachycardia and 3 of reduplication of the second sound were noted.

Wherever definite valvular disease is discovered instructions are given to exclude the child from physical drill.

Lung Diseases.

As in 1912, particular attention has been paid to all children exposed at any time to infection from tuberculosis in the home—tubercle contacts. These are kept under observation and re-examined. Careful inquiry into the family history is necessary to obtain the truth in such cases, as obviously the infection may have occurred, and the infecting person be dead.

Apart from this group, it is necessary to examine most cases of obvious malnutrition most carefully with regard to the lung condition. Children of school age are prone to suffer from cough and it is now recognised that the majority of children must become immune to tuberculosis by successfully resisting infection. Many indeed suffer without evincing definite signs of the disease, while many children suffer from a condition of bronchial catarrh without showing constitutional evidence of disease.

All cases classified as doubtful consumptives, or where symptoms of chronic bronchitis are found, are noted for re-examination but exclusion from school is not adopted unless the diagnosis is made that the child is consumptive. Experience in the examination of children of school age is of the greatest help in determing the question of exclusion or otherwise, as in many cases the child fares much better by attending school. The holding of the daily inspection clinic has been of the greatest help in this direction as one is able to maintain constant supervision of ailing children, and to secure individual treatment.

The following Table shows the lung conditions found during the year.

	Phthisis.	Doubtful Phthisis.	Bronchial Catarrh.	Tuber. Contacts.
Boys	9	2	21	28
Girls	7	...	22	31
Total ...	16	2	43	59
Per cent. ...	1·1	...	3	4

It should be noted that 24 cases were excluded from school during the year for phthisis, and 24 for bronchitis. In addition to the above 1 case of asthma was detected, and 1 case of pleurisy was excluded.

Nervous System.

Out of the 1,450 children examined 1 girl was found to have chorea, 1 boy epileptic, and 1 girl suffering from enuresis. In addition 3 girls were excluded with epilepsy, and 4 boys and 4 girls with chorea.

Diseases of the Skin.

These diseases though common amongst children of school age were much less often detected in 1913 owing to the inspection clinic. In the case of contagious skin diseases exclusion is adopted, not because of the danger to health in the affected child but for the sake of the unaffected children at school. In last year's report this subject was dealt with in detail.

The conditions found were as follows :—

	Entrants.				Leavers.				Intermediate.				Total.			
	Boys	Girls	Total	Per cent.	Boys	Girls	Total	Per cent.	Boys	Girls	Total	Per cent.	Boys	Girls	Total	Per cent.
No Disease ...	320	253	573	97	193	215	408	99	211	240	451	99	724	708	1132	98
Ringworm : Body	1	...	1	...	...	...	...	...	...	2	2	...	1	2	3	...
Ringworm : Head	6	...	6	...	...	...	...	...	...	...	...	...	6	...	6	...
Impetigo ...	2	...	2	...	...	...	...	...	...	...	...	...	2	...	2	...
Scabies	1	...	1	...	...	...	...	...	...	...	...	...	1	...	1	...
Other Diseases ...	...	2	2	...	2	1	3	...	...	1	1	...	2	4	6	...

There was included 1 case of lupus in the above Table. In addition 18 boys were noticed to be suffering from fleabites, and 16 girls. Further consideration to the skin conditions found will be given under the heading of the Inspection Clinic when dealing with the question of exclusion.

Rickets.

Only 2 cases of rickets were noticed at the routine examination. Rickety conditions are rare in this district, possibly due to the hardness of the water supply. Both cases were boys.

Tuberculosis Non Pulmonary.

Active tuberculosis non pulmonary was found in only 2 cases, 1 of hip joint disease and 1 of lupus. In 12 other cases signs such as gland sears were noted as possibly tubercular in origin. These gland sears were noted in 7 boys and 5 girls.

Speech.

Defects were found as follows :—

	Stammer.	Lisp.	Other Defects.	Total
Boys	2	1	1	4
Girls	...	3	4	7
Total	2	4	5	11

The other defects noted were either slurring or indistinct speech. The absence of stammering amongst girls is again noticeable.

Deformities.

These were noticed in 9 cases, 6 boys and 3 girls, and were made up as follows :—

Girls.	Boys.
Displaced scapula.	Left leg wasted owing to infantile paralysis.
Shortening of femur.	Deformed arm due to fracture.
Cleft palate.	1 cleft palate. 1 left eye removed. 1 hare lip. 1 right leg, infantile paralysis.

Other conditions noticed include :—1 case of facial paralysis—1 case of hypertrophic muscular paralysis, 2 cases of burn scar, 2 cysts, 1 prolapse of anus, 2 ptosis, 1 hernia, 2 enlarged thyroid, and 2 of forked uvula.

Mental Capacity.

At the routine inspection, 3 boys and 5 girls were found mentally deficient. There was one boy of the type mentally deficient and epileptic and the others were of the type suited to instruction in special schools. Special observation is made to detect any physical defect requiring attention, such as deficiency in the senses of sight or hearing. Apart from those the mental capacity was found to be as follows :—

	Intelligent.	Average.	Dull.	Total Examined.
Boys ...	7	694	35	736
Girls ...	60	600	54	714
Total ...	67	1294	89	1450

No conclusion of value can be drawn from the above as the classification depends to a certain extent on the personal equation of the teacher. The number of dull children or backward amounts to 6 per cent. of those examined.

Vision.

The school children are tested with Snellen's types and as before have been marked as having refraction error and advised to obtain testing by the mirror wherever the defect amounted to $\frac{6}{12}$ in one or both eyes. It is very important that refraction errors should be corrected by the use of spectacles wherever necessary, as the eye is the main avenue of education, and nothing can be more injurious to the child at school than the continual effort of straining the eyes to see. It must be understood that in astigmatism the oligat does not appear the same as to a person with normal vision. Consequently the child so afflicted has to learn to distrust his eyesight. In the following Table the children examined in their 9th and 13th year are alone considered for purposes of accuracy.

	Right Eye.	Left.	Both.	Total.	Per cent.
Boys	16	36	57	109	26·8
Girls	16	38	78	132	28·7
Total	32	74	135	241	28

In a similar Table ror 1912 the percentage was also found to be 28. This seems to point to a large amount of defective eyesight in the schools as it means that one child in four has an error of $\frac{6}{12}$ or more.

Squint.

The condition of squint is very often associated with either external disease of the eye or with errors of refraction. The condition was noticed in 59 cases as follows.

	Squint.	Associated with Refraction errors.	External Eye Disease.
Boys	29	8	1
Girls	30	9	...
Total ...	59	17	1
Per cent. ...	4	29 (of all squint cases)	...

The true percentage of cases of squint due to associated error of refraction is probably much higher as many cases occurred in children too young to be tested by Snellen's types. As regards the children wearing glasses at school, of whom there were 39, it was found that of the 17 boys 9 were also suffering from squint, and of the 22 girls 3 squinted.

There were 5 children, 4 boys and 1 girl, whose vision was defective because of permanent external eye disease, and in 1 case —a girl—nystagmus was responsible.

Hearing.

The forced whisper was not used in every case, but in 36 cases defective hearing was detected, viz. : 15 boys and 21 girls. This gives a percentage of 2·5.

Vaccination.

The evidence as regards vaccination was as follows :—

Sex.	Unvaccinated.	Per cent.	Vaccinated but showing no marks.	Per cent.	Number Examined
Males ...	85	11·5	10	1·2	736
Females ...	64	8·9	12	1·6	714
Total ...	149	10·2	22	1·5	1450

The remainder or over 88 per cent. may be regarded as successfully vaccinated. In 1912 this percentage was over 91. The proportion of unvaccinated children was largest in the case of entrants.

Presence of Parent or Guardian at Examination.

This Table shows percentage of absence :—

	12—13 Years. Per cent.	8—9 Years. Per cent.	Entrants. Per cent.	All Ages. Per cent.
Males	30	22	28	27·3
Females ...	24·5	26·3	22·7	24·5
Total ...	27	24·6	26·1	25·2

The above shows that the best attendance is at the younger ages.

INFECTIOUS CASES NOTIFIED BY TEACHERS.

This procedure adopted by the Education Committee in 1912 has been very valuable as a means of providing the Medical Officer with early intimation of children absent with infectious diseases, such as chickenpox, whooping cough or measles, which are not notifiable. These are visited and particulars obtained and advice given as to the length of exclusion for other members of the family.

The notifications amounted to 52. These included 37 cases of measles of which 31 were incorrect, but of 26 were found to be rubella. There were also 2 cases of whooping cough, 1 case of mumps, and 6 of chickenpox. The remaining 6 cases were of diseases contagious but not infectious.

It is evident that the notification by teachers of absentees declared to have zymotic diseases is of great value, as though it is apparent that there were few cases of measles in the borough, the notification led to the knowledge of the presence of rubella. The absence of other than sporadic cases of measles is borne out by the zymotic death rate for the year.

II.—Special and Supplementary Examination at School.

(a) Re-examination.

All children found with defects not requiring exclusion from school are re-examined at intervals. As the names and nature of the defects are entered in the defect register these children are

easily found—the name being removed if the defect has been remedied. It is not only the children found defective in any one year but those left over from preceding years and still unattended to.

During 1913, the children re-examined for defective conditions amounted to 1009, as follows:—

Friarswood ...	168	including	66 girls with pediculosis
Hassell Street	285	„	111 girls and 2 boys with pediculosis
Rye Croft ...	329	„	120 girls and 2 boys „ „
National ...	105	„	32 girls „ „
R. Catholic ...	122	„	73 girls and 1 boy „ „
	1009		

(b) Special Cases.

These are cases brought for examination at the time of the visit to school for routine inspection. These do not amount to a large figure, owing to the inspection clinic being held daily, but in this way 167 cases were examined.

In addition to these cases, visits have been made at frequent intervals to detect cases of infectious diseases, including diseases of the skin and hair, whole classes undergoing such cursory examinations at intervals and those with pediculosis (nits) are again repeatedly examined. Until the system of medical inspection was in good working order these visits were made by the Medical Officer and school nurse. But as this work is more important for the detection and following up of pediculosis, the visits are now regularly made by the nurse.

The total number of special examinations made in 1913 amounted to 5579,-- this figure including re-examinations.

With the results obtained from the special examinations at school, I will deal under the heading of "Following Up." It is evident that any child requiring exclusion can be excluded at once, but larger use is now made of the inspection clinic by both parents and teachers.

III.—The Inspection Clinic.

During the year, 2840 attendances were made at the office by children, either new cases sent by the parent, teacher, or attendance

officer, or excluded cases re-attending for observation. Supervision is maintained by visits to the homes by the nurse, for the purpose of seeing that treatment is obtained.

Assuming 40 weeks in the year, this gives an average of over 70 children being seen at the clinic each week.

The number of children excluded from school during the year was 564, consisting of 220 boys and 344 girls.

These were excluded as follows:—

12 at routine medical inspection at school.
13 at special examinations at school,
539 at the inspection clinic.

564

In 1912 the number excluded was 301 but the clinic was not inaugurated till May of that year. The number of exclusions is not the same as the number of absentees through illness, but is the actual number excluded by me in the year. Of the 564, all but 9 have returned to school. Each case is advised to consult their family doctor, and as most of the cases appear to a parent as minor ailments, it is necessary to impress this.

The reasons for exclusion were:—

Skin Diseases	162	56 Boys	106	Girls
Ringworm	73	31 „	42	„
Pediculosis	9	... „	9	„
Impetigo	56	13 „	43	„
Scabies	7	3 „	4	„
Eczema	6	5 „	1	„
Others	11	4 „	7	„
Eye Diseases	33	12 „	21	„
Conjunctivitis ...	21	7 „	14	„
Corneal Dis	11	4 „	7	„
Others	1	1 „	...	„
Nervous Diseases ...	11	4 „	7	„
Epilepsy	3	... „	3	„
Chorea	8	4 „	4	„

Infectious Diseases ...	97	45	Boys.	52 Girls.
Scarlet Fever ...	1	1	„	... „
Diphtheria	2	1	„	1 „
Whooping Cough ..	3	2	„	1 „
Chickenpox	8	5	„	3 „
Mumps	3		„	3 „
Influenza	68	30	„	38 „
Rubella	12	6	„	6 „
Phthisis	24	10	„	14 „
Bronchitis	24	11	„	13 „
Pleurisy	2	1	„	1 „
Debility	54	22	„	32 „
Heart Disease	9	4	„	5 „
Otorrhœa	9	5	„	4 „
Tonsillitis	52	10	„	42 „
Miscellaneous	87	40	„	47 „
Total	564	220		344

As in last year's totals, it is noticeable that skin diseases form the largest group of exclusions. In the following Table the distribution of these diseases in the schools has been noted.

Exclusion for Skin and Hair Disease.

	Pediculosis.			Ringworms.							
	Head	Body	Total	Head	Body	Total	Impetigo	Scabies	Eczema	Others	Total
Friarswood	..	..	..	6	14	20	5	3	1	1	30
Hassell Street ..	2	..	2	12	4	16	12	4	3	4	41
Rye Croft	3	4	7	8	12	20	22	..	..	3	52
National	..	..	..	8	4	12	3	...	1	...	16
R. Catholic ..	..	...	...	2	3	5	14	..	1	3	23
Borough ..	5	4	9	36	37	73	56	7	6	11	162

With regard to pediculosis, exclusion has been adopted for verminous cases only. That only 5 cases of verminous head and 4 of verminous clothing were detected is a sign of the improvement due to medical inspection. Nevertheless it is advisable that arrangements should be made for securing cleansing, as otherwise the Children's Act remains a dead letter.

The ringworm cases have fallen considerably since the Spring of 1913, and the provision of the clinic has done much to reduce the prevalence. At the end of the year only 2 children were absent because of this disease.

The other large exclusion groups are those of the infectious diseases—largely due to influenza—and tonsillitis. Suspicious cases have the throat swabbed for bacteriological examination.

As the object of the inspection clinic is not to grant certificates of exclusion but mainly to decide which children are unfitted to attend, it is essential that all excluded children should be re-examined at intervals. Thus 2840 attendances were made by the 564 children excluded, an average of over 5 visits per child.

IV.—Following-Up.

In the preceding sections of the report the various portions of this procedure have been described.

To keep trace of a child with a defect entails a fair amount of office and clerical work, apart from the medical examinations and the visiting duties of the nurse.

In an ordinary successful case the procedure is:—

1. Child detected with defect. I.

2. Requiring exclusion. II. Exclusion unnecessary.

3. Entered in Exclusion Register. 3. Certificate to parent *via* Attendance Officer. III. Notice to parent. III. Entered in Defect Register.

4. Attends Inspection Clinic for re-examinations. IV. Re-examined at School and defect not remedied.

5. Re-examined at Clinic. 5. Visits by Nurse. V. Notice to parent. V. Visits by Nurse.

6. Recovered. VI. Condition remedied.

6. Notice to Teacher *via* child. 6. Visited by Attendance Officer to ensure return to School. VI. Marked as recovered in Office Register.

It has to be remembered that cases found defective in one year may require re-examination in following years, and many conditions such as heart disease, tuberculosis suspects, corneal opacities, etc., must remain fixtures. To facilitate the accuracy of the results obtained, I append the following Table:—

RESULTS OF FOLLOWING-UP.

	No. in Defect Register, 31st Dec. 1912,	Added in 1913.	Total,
	682	931	1613
Irrecoverable	103	94	197
Left (condition unknown)	124	83	207
Recoverable	455	754	1229
Recovered	196	211	407

Percentage recovered = 33.

This is the same percentage as last year, and like it includes pediculosis. The actual children re-examined were as follows:—

Remaining from 1912.	Added in 1913,	Total.
588	421	1009

With regard to pediculosis itself 407 girls were re-examined and 124 names were removed as being free of nits. The percentage of recovery is thus materially the same, especially as many girls suffered from other defects as well and the name is only entered once and only removed on complete recovery. Starting with January, 1914, it is not proposed to enter the pediculosis cases in the general defect register, but in separate books. Thus 407 may be stated as the number successfully followed up of those whose names were entered on the defect register. Adding to these the 564 exclusions, the resulting total of 971 school children successfully followed up in 1913 is a matter for congratulation.

The aim of school medical inspection is to ensure that ailments and diseases may be detected, and further that they may be cured where possible. The scheme as detailed would be impossible without the assistance of the nurse, who has also helped largely in the clerical work of medical inspection. In 1913 she paid 1213 visits to 1083 homes for the purpose of following-up school children with various defects and diseases. She has also assisted at medical inspection, whether at the schools or at the office. As part of her duties is to visit the homes of consumptives, she has

been instrumental in obtaining the names of tuberculosis contacts of school age for examination. I regard the appointment of Miss Davies as a decided success.

With regard to the sanitary condition of the schools, now that the defects in Hassell Street have been remedied, I have to report that all the schools in your area are satisfactory.

Table III.

NUMERICAL RETURN OF ALL EXCEPTIONAL CHILDREN IN THE AREA.

			Boys	Girls	Total
Blind (including partially Blind).		Attending Public Elementary Schools...	7	4	11
		Attending Certified School for the Blind	0	1	1
		Not at School	...	...	...
Deaf and Dumb (including partially Deaf).		Attending Public Elementary Schools...	1	1	2
		Attending Certified Schools for the Deaf	2	2	4
		Not at School	...	...	...
Mentally Deficient.	Feeble Minded.	Attending Public Elementary Schools...	8	7	15
		Attending Certified Schools for Mentally Deficient Children... ...	...	...	...
		Not at School	1	0	1
	Imbeciles.	At School	1	1	
		Not at School	...	...	...
	Idiots.	... ...	...	...	...
Epileptics.		Attending Public Elementary Schools...	6	2	8
		Attending Certified Schools for Epileptics ...	...	...	...
		Not at School	...	...	...

TABLE III.—*Continued.*

			Boys.	Girls	Total.
Physically Defective.	Pulmonary Tuberculosis.	Attending Public Elementary Schools...	12	14	26
		Attending Certified Schools for Physically Defective Children ...	...	...	...
		Not at School	5	5	10
	Other forms of Tuberculosis.	Attending Public Elementary Schools ...	...	...	...
		Attending Certified Schools for Physically Defective Children ...	...	...	...
		Not at School	...	2	2
	Cripples other than Tubercular.	Attending Public Elementary Schools	3	...	3
		Attending Certified Schools for Physically Defective Children ...	...	...	...
		Not at School	...	...	...
Dull or backward.		Retarded 2 years	6	6	12
		Retarded 3 years	1	5	6